

From Hand to Mouth (H2M)

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## From Morphology to Syntax and Back Again: Agreement, Word Order, and Morphological Typology

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## Modality-independent Features

- Characteristics of morphological structure:
  - scarcity of sequential affixation (e.g. derivation);
  - simultaneity (stem-internal changes);
  - **reduplication** (e.g. aspect, number);
  - use of space (agreement, classifiers);
- Characteristics of syntactic structure:
  - **basic word order** (topic prominence?);
  - **expression of negation** (**manual** vs. non-manual);
  - **interrogatives: intonation**, clause-final wh-sign;
  - **relativization & subordination**.

2

## (Apparent) Modality-specific Features

- Characteristics of morphological structure:
  - **scarcity of sequential affixation** (e.g. derivation);
  - **simultaneity** (stem-internal changes);
  - reduplication (e.g. aspect, number);
  - **use of space** (agreement, classifiers);
- Characteristics of syntactic structure:
  - basic word order (topic prominence?);
  - **expression of negation** (manual vs. **non-manual**);
  - **interrogatives: intonation, clause-final wh-sign**;
  - relativization & subordination.

3

## Issues Addressed in this Talk

- Characteristics of morphological structure:
  - scarcity of sequential affixation (e.g. derivation);
  - **simultaneity** (stem-internal changes);
  - reduplication (e.g. aspect, number);
  - use of space (**agreement, classifiers**);
- Characteristics of syntactic structure:
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  - interrogatives: intonation, clause-final wh-sign;
  - relativization & subordination.

4

## Overview

1. Sign language agreement
  - 1.1 Pronouns and agreement
  - 1.2 Optionality of agreement marking
  - 1.3 Agreement auxiliaries
  - 1.4 Classifier agreement
2. Word order issues
  - 2.1 Basic word order
  - 2.2 The role of agreement
  - 2.2 Simultaneity
3. [Morphological typology]
4. Conclusion: The impact of modality

5

## - 1 - Sign Language Agreement

### Pronouns and Agreement

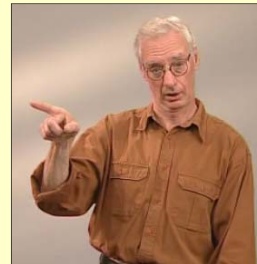
- Remember from Jörg Keller’s presentation:
  - that for **present referents**, pronouns are realized by an index pointing to the referent



- that **non-present referents** are localized in the signing space by pointing and/or eye gaze

7

### Localization & Pronominalization



localization of non-present referent



pronominalization

8

### What Are the Relevant Features?

- Challenge: there are no fixed loci for 2<sup>nd</sup> or 3<sup>rd</sup> person → listability problem (Liddell 2003)
- There are **indefinitely many** person feature distinctions (Neidle et al. 2000)
- The only relevant distinction is a **first/non-first** distinction (Meier 1990; Engberg-Pedersen 1993)
- Proposal: **2<sup>nd</sup> and 3<sup>rd</sup> person** can be distinguished by non-manual marking (Berenz 2002; Alibašić Ciciliani & Wilbur 2006)

9

### Verb Classes

- SL verbs fall into three distinct morphosyntactic classes (Padden 1988):
  - Plain** verbs: show no agreement (e.g. LIKE)
  - Agreeing** verbs: agreement with subject and/or object (e.g. VISIT, HELP)
  - [Spatial verbs: agreement with locative arguments (e.g. PUT-DOWN, WALK-TO)]
- Class membership is determined by semantic and phonological properties (Mathur 2000; Meir 2002)
- [Remember terminological clarifications from Dürscheid & Stark]

10

### Agreeing Verbs

(Mathur & Rathmann 2012)

- Agreeing verbs (AVs) agree with subject and/or object loci by means of movement and/or orientation of fingers/palm (Meir 2002)
- In most AVs, the movement or orientation is from the subject towards the object locus (e.g. GIVE, VISIT, HELP)
- Not all SLs have AVs; lack of AVs in Kata Kolok (Marsaja 2008) and Al Sayyid Bedouin SL (Padden et al. 2010)

11

### Pronouns and Agreement

- The same loci that are relevant for pronouns are also relevant for verb agreement
- This relation is reminiscent of spoken languages, where agreement markers commonly develop from pronouns, often via **cliticization** (for clitic account of SL agreement: Keller 1998; Nevins 2011)
- Furthermore, agreement morphology (rich agreement) is said to licence **pro-drop** (Lillo-Martin 1986; Bahan et al. 2000)

12

### Optionality of Agreement

- A striking, and typologically unusual, feature of SL agreement is that in many SLs, it is (partially) optional
- First, **subject agreement** appears to be more marked than object agreement
  - some AVs agree with only the subject, due to phonological blocking (body-anchoredness);
  - subject agreement can be dropped: ‘body as subject’ (Meir et al. 2007)

13

### Optionality of Agreement

- Second, occasionally AVs appear **entirely uninflected**
- Auslan corpus study (De Beuzeville et al. 2009): only 41% of the agreeing (‘indicating’) verbs are spatially modified
- Similar finding for Inuit SL (Schuit 2013): only 44% of the AVs are spatially modified
- That is, in both SLs, more than half of the verbs that would allow for spatial modification appear in the data in a **non-modified form**

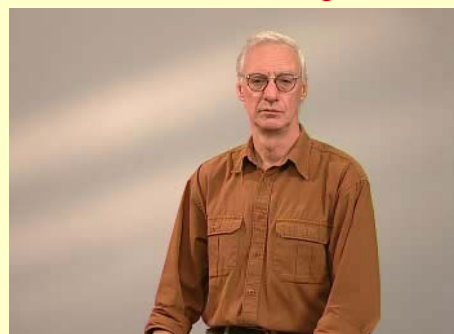
14

### Agreement Auxiliaries

- Some SLs employ dedicated auxiliaries in the context of plain verbs (Sapountzaki 2012)
- These auxiliaries are **semantically empty**; crucially, they are not TAM-markers, they only express subj/obj agreement
- Agreement auxiliaries are **grammaticalized** from verbs (e.g. NGT), nouns (e.g. DGS), or pronouns (e.g. Taiwan SL) (Steinbach & Pfau 2007; Pfau & Steinbach 2013)

15

### An NGT Example



INDEX<sub>1</sub> WIFE INDEX<sub>3a</sub> INDEX<sub>3a</sub> LOVE <sub>3a</sub>AUX<sub>1</sub>

### Sign Language Classifiers

- Most SLs have classificatory verbs (Schembri 2003)
- Rich and complex morphological system used to denote spatial relations and motion events
- In classificatory verbs, **handshape** functions as a **morpheme** which classifies physical properties of one of its arguments
- Classifiers appear only on verbs of location and movement (Supalla 1986; Zwitserlood 2003)
- Relation between CL and argument structure

17

### BODYPART & ENTITY Classifiers



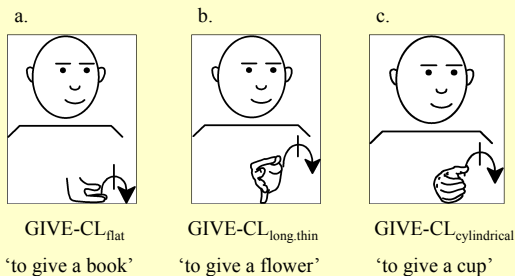
CL:Person  
*movement*

CL:Tree  
*location*

CL:Car & CL:Tree  
*movement towards loc*

18

### HANDLE Classifiers



19

### Classifiers and Agreement

- Senft (2000: 23): “morphemes that classify [...] nouns according to semantic criteria”.
  - (a) status as a morpheme
  - (b) function of grouping and classifying nouns
- Handshape forms of SLs conform to these criteria (Zwitserslood 2003; Sandler & Lillo-Martin 2006)
- Proposal: Classifying handshapes are **agreement morphemes** which spell out phi-features associated with nouns (Glück & Pfau 1998; Zwitserslood 2003)

20

### Relevant Features: ENTITY

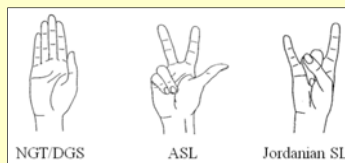
(Zwitserslood 2003)

HC (NGT)	(form) features
	+straight, +volume
	+straight, +flat, +volume
	-straight, -flat, -volume
	-straight, +small, -flat, -volume
	-straight, -small, +flat, -volume
	-straight, +flat, -volume
	-straight, +small, +flat, -volume
	+small, +volume

21

### Variation

- Same features can be spelled out differently; e.g. ENTITY classifier for vehicles



- Adamorobe SL does not make use of Entity CL at all → generic directionals (Nyst 2007)

22

- 2 -

### Word Order Issues

### Word Order in Spoken Languages

- **Criteria** for determining basic word order: frequency, distribution, pragmatic neutrality, and morphological markedness (Dryer 2007)
- **Distribution:** SOV (41%); SVO (35%), VSO (7%) – other orders are extremely rare (Dryer 2011) → subject precedes object
- Also, some languages are claimed to lack a basic word order (14% in Dryer’s sample)

24

### Word Order in Sign Languages

- Flexible word order is not to be confused with lack of basic word order
- It is crucial to identify operations that trigger deviations from basic order; e.g. topicalization, pronoun copy, doubling (ASL: Neidle et al. 2000)
- **SOV**: e.g. SL of the Netherlands, Italian SL, Indopakistani SL, Turkish SL
- **SVO**: e.g. American SL, Brazilian SL, Hong Kong SL, Kata Kolok
- [No reference to 'topological fields' (cf. Dürscheid & Stark)]<sub>25</sub>

### Word Order in Sign Languages

- Some SLs have been classified as 'topic-prominent' languages (e.g. Israeli SL)
- Furthermore, **locative sentences** show a special pattern, as they commonly follow a *Ground-Figure* principle (i.e. OSV); eg. Russian SL



(Kimmelman 2012)

### Agreement and Word Order

- Interestingly, it has been found that some SLs display a different word order with agreeing verbs → criterion morphological markedness
- E.g. in Brazilian SL and Flemish SL, we find SVO with plain verbs, but SOV with agreeing verbs (de Quadros 1999; Vermeerbergen et al. 2007)
- A similar influence has been observed for aspectual and classifier morphology
- [Phenomenon appears different from 'partial agreement' patterns, as introduced by Dürscheid & Stark]

### The Impact of Simultaneity

- The availability of two manual articulators allows for the simultaneous articulation of two signs
- Simultaneity may aggravate the identification of a basic word order
- However, in syntax, true simultaneity **hardly ever occurs**; that is, e.g. a verb and one of its arguments are not usually articulated simultaneously

### The Impact of Simultaneity

- Generally, in simultaneous structures, one of the signs is articulated first and then held in space while the other sign is articulated: perseveration
- It is still possible to identify word order

Flemish SL  
 RH: GIRL STRING CUT  
 LH: STRING+\*\*\*\*\*  
 'The girl cuts the string.'

Russian SL  
 LH: CHAIR+----  
 RH: CAT SIT-ON;  
 'The cat sits on the chair.'



(Vermeerbergen et al. 2007; Kimmelman 2012)

- 3 -

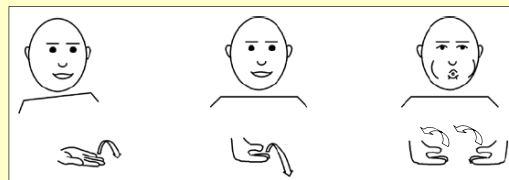
### Morphological Typology

### Simultaneity ... Again

- In contrast to syntax, simultaneity abounds in the area of morphology
- Actually, apart from compounding, sequential morphological processes are scarce across SLs (Aronoff et al. 2005)
- How do SLs fit into traditional morphological typology?

31

### Simultaneous Morphological Processes: An NGT Example



GIVE (citation form)      GIVE-CL (e.g. a book)      <sub>2</sub>GIVE<sub>1</sub>-CL (e.g. you give me a heavy book)

32

### Stem-internal Changes

- Every phonological parameter may function as an independent morpheme → simultaneity
- **Handshape**: Classifier
- **Direction of movement** (begin/end location) expresses subject and object agreement
- **Manner of movement**: manner adverb
- **Non-manual marking**: manner
- Simultaneity in spoken languages?

33

### Morphological Typology

- Spoken languages (Comrie 1981):
  - index of **synthesis** (isolating – polysynthetic)
  - index of **fusion** (agglutinative – fusional)
- In the literature, SLs have been classified as isolating, polysynthetic/incorporating, and fusional (e.g. Erlenkamp 2000; Meir 2001)
- As for the latter, there appears to be a confusion between simultaneous and fusional
- Generally, all morphemes are easily segmented

34

### Morphological Typology

- Based on the criteria complexity and segmentability, SLs should therefore be classified as agglutinative (a modality-independent classification); cf. Turkish

ev-ler-imiz-de-ki-ler house-PL-1.PL.POSS-LOC-REL-PL 'the ones inside our houses'	[Turkish]	sháa ('to drink')	[Hausa]
		sháa ('a drink')	

- Yet, multiple morphemes are capable of combining simultaneously (a modality-specific feature); but cf. Hausa

35

### Morphological Typology

- **Turkish** ( $\mu$  = morpheme)  
 $[ [\mu_1]_{\text{stem}} - [\mu_2]_{\text{PL}} - [\mu_3]_{2.\text{PL.POSS}} - [\mu_4]_{\text{Loc}} - \dots ]_{\text{Word}}$   
*ev-ler-imiz-de-...*

- **Hausa**  
 $[ [\mu_2(\text{tone})]_{\text{N/V}} - [\mu_1]_{\text{stem}} ]_{\text{Word}}$   
*sháa / sháa*

- **NGT**  
 $[ [\mu_4(\text{face})]_{\text{manner}} - [\mu_3(\text{H2})]_{\text{CL}} - [\mu_2(\text{handshape})]_{\text{CL}} - [\mu_1]_{\text{stem}} ]_{\text{Sign}_{36}}$

- 4 -  
**Conclusion**

### The Impact of Modality

- Modality-independent ☺; modality-specific ☹
- In the process we referred to as ‘agreement’:
  - ☹ the relevant features are contextually determined; they are not inherently specified for (pro)nouns (but cf. ‘literal alliterative agreement’; Aronoff et al. 2005)
  - ☺ the phonological matrix of the agreement markers is related to that of pronouns
  - ☹ the spell-out of the features appears to be optional, at least in some SLs
  - ☺ agreement morphology licences pro-drop

38

### The Impact of Modality

- When it comes to word order:
  - ☺ a number of SLs have been claimed to have a basic word order; some SLs possibly have free order
  - ☺ the most common basic orders are SOV and SVO
  - ☺ information structure commonly affects word order
  - ☹ locative sentences tend to display a different word order (Ground-Figure: OSV)
  - ☹ the presence/absence of inflectional morphology (e.g. agreement) may influence word order

39

### The Impact of Modality

- As for morphological typology:
  - ☺ SLs allow for morphologically complex signs the components of which are easily segmented
  - ☺ SLs can be classified as agglutinative languages
  - ☹ multiple (i.e. more than two) morphemes can be realized simultaneously, thanks to the phonological structure of signs

40

### Synthesis: Food for Thought

- Distinction of verb classes  
→ parallel in spoken languages?
- Phonological factors / phonological blocking
  - body-anchoredness (but diachronic change)
  - motoric constraints
- Agreement and word order in spoken and sign languages
- Optionality of agreement → influences?

41

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